FACT SHEET FOR NPDES PERMIT WA-000261-5

Todd Pacific Shipyards Corporation

This fact sheet is a companion document to the draft National Pollutant Discharge Elimination System (NPDES) Permit No. WA-000261-5. The Department of Ecology (the Department) is proposing to reissue this permit, which will allow discharge of drydock flood water and stormwater to waters of the state of Washington.

This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions. Public involvement information is contained in Appendix A. Definitions are included in Appendix B.

GENERAL INFORMATION

Applicant:	Todd Pacific Shipyards Corporation
Facility and Address:	1801 16th Avenue SW Seattle, WA 98134
Type of Facility:	Ship Construction and Repair
Discharge Location:	Elliott Bay, Class A Marine Water Duwamish West Waterway, Class B Marine Water Latitude: 47˚ 35' 17" N Longitude: 122˚ 21' 18" W
Water Body ID Number:	WA-09-0010
SIC Code:	3731

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC) and water quality criteria for surface and ground waters (chapters 173-201A and 200 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the public notice procedures).

This fact sheet has been reviewed by the Permittee and errors in fact have been corrected. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments (Appendix C) will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Changes to the permit and fact sheet will be addressed in Appendix C--Response to Comments.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Todd Pacific Shipyards Corporation (Todd) is a ship repair, construction, and conversion facility located on the northwest corner of Harbor Island in Seattle, Washington (Figure 1).

Services are provided to approximately 275 vessels a year, including Navy vessels, Coast Guard vessels, passenger ferries, barges, fishing vessels, cruise ships, tank vessels, and tugs. The hulls of these vessels are generally constructed of steel. Ship repair services include electrical and machine work, carpentry, steel fabrication, pipe-fitting, painting, sandblasting, and pressure washing.

The shipyard operates three drydocks, one shipway, and several moorage berths (Figure 2). The shipway, which is located on the West Waterway (Duwamish River), is used for new construction. The drydocks are located on the north end of the facility on Elliott Bay. The moorage berths are on both the West Waterway and Elliott Bay.

Drydock #1 is a steel drydock located on the northwest corner of the property. It is 598 feet long, 87 feet wide, and can hold up to 17,500 tons. Drydock # 2 is a wooden drydock located east of Drydock #3. It is 412 feet long and 66 feet wide and holds up to 5,700 tons. Drydock #3, the largest drydock, is located between Drydock #1 and Drydock #2. Drydock #3 is 873 feet long, 137 feet wide, and can hold up to 40,000 tons. Drydocks #2 and #3 are owned by the Navy and are operated by Todd Pacific Shipyards Corporation.

All of the drydocks have been updated to provide containment for pressure wash wastewater. About 15% of the vessels hauled out require pressure washing. Pressure wash wastewater is generated at a rate of 300 to 500 gallons per vessel for fishing vessels and much larger amounts for larger vessels. Process wastewater, such as pressure wash water and hydroblast water, is captured in a collection sump and pumped on-shore to a pretreatment system prior to discharge to King County Sanitary Sewer System.

Todd Pacific Shipyards Corporation uses approximately 4,680 tons of sandblast grit annually. More than 35% of the vessels hauled out require partial or complete hull sandblasting, accounting for 80% of the grit used. About 10% is used in the sandblast shed on shore. The remaining 10% is used in ship holds and ship superstructures. Spent grit is required to be removed via sweeping followed with vacuuming (S10.B) from the drydocks prior to launching a vessel. Spent grit is stored in a covered storage area prior to being hauled to Holnam Cement for re-use in the manufacture of concrete.

Stormwater run-off from the 26-acre facility is discharged to Elliott Bay and the West Waterway through several outfalls. The facility has a total of 23 outfalls. The majority of the industrial activity occurring on-site is in the vicinity of Outfalls 004 and 005. Stormwater run-off from these active areas is routed to an underground vault for treatment prior to discharge through Outfalls 004 and 005.

The Department has determined that Outfalls 004 and 005 are the most representative stormwater outfalls, because they are considered to be significant contributors with respect to other areas of the site. Thus, these two outfalls were chosen in the previous permit (Outfalls 004 and 005) as representative of the stormwater discharge from the entire facility. A complete wastewater characterization for Outfalls 004 and 005 was conducted on March 21 and April 14, 1994, and April 10, 1996. The catch basins in the collection areas for Outfalls 004 and 005 have been fitted with catch basin inserts. The yard and catch basins are cleaned on a routine basis to prevent the discharge of suspended solids in the stormwater.

Outfalls OA, OC, OD, and 20 (south of building T-206) were analyzed in late 1998 and 1999 as part of the AKART study. A total of seven samples were collected for Outfalls OA, OC, and OD. A total of four samples were collected for Outfall 20. The data indicated that copper and zinc concentrations exceeded the water quality criteria, but were less than King County's sanitary sewer local limits. Since then, Todd has been seeking approval from the City of Seattle to discharge stormwater through its utility lines and into the King County sanitary sewer system. Due to the concern with hydraulic loading in the lines, the City has not granted approval for Todd to begin to discharge. While continuing to wait for the City's final decision, Todd has agreed to install catch basin inserts in the catch basins located within these collection areas. Todd also proposed to terminate these outfalls in the near future by routing the area's catch basins to the proposed wastewater treatment system.

Other outfalls on-site have either been plugged or drained from a non-active area (e.g., welding, cutting, and metal fabrication occur inside a building, and some of those buildings are bermed) as verified through routine unannounced inspections by the Department.

PERMIT STATUS

The previous permit for this facility was issued on October 7, 1996. The previous permit placed effluent limitations on oil and grease, turbidity, and total suspended solids (TSS) for drydock flood water (Outfall 001, 002, and 003) and stormwater (Outfall 004 and 005). The limits were as follows:

PARAMETER	EFFLUENT LIMITATION	
Oil and Grease (001 through 005)	10 mg/L	15 mg/L
Turbidity (001 through 005)	N/A	10 NTU over background
TSS (004 and 005)	N/A	45 mg/L

Depending on the outcome of the final engineering report, the Department intends to impose effluent limits in the permit for storm water (Outfalls 004 and 005) based on the Water Quality Criteria for copper and zinc.

An application for permit renewal was submitted to the Department on July 17, 2001, and accepted by the Department on October 10, 2001.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on January 16, 2002. During the history of the previous permit, the Permittee had the following violations, based on the Discharge Monitoring Reports (DMRs) submitted to the Department, and inspections conducted by the Department.

Turbidity: Maximum daily limit for turbidity is not to exceed 5 NTU over background.

Month Reported	Outfall	Turbidity, NTU above background
9/97	004	26.11 NTU above background
9/97	005	49.44
10/97	004	18.9
3/00	004	6.6
7/00	004	12.0
12/00	004	6.3

Total Suspended Solids (TSS): Maximum daily limit for TSS is 45 mg/L

Month Reported	Outfall	TSS, mg/L
12/96	005	68 mg/L
1/97	004	50
6/97	005	59
9/97	005	48
1/00	005	46
4/00	005	88
6/00	005	99
6/00	004	51
7/00	005	58
11/00	005	100

Oil & Grease:

Month Reported	Outfall	Oil & Grease	Maximum Daily Limit
11/00	005	19 mg/L	15 mg/L

Month Reported	Outfall	Oil & Grease	Average Monthly Limit
11/00	005	19 mg/L	10 mg/L

Best Management Practices (BMPs) were observed to be needed in a few areas during the inspections. However, the facility has demonstrated full cooperation in taking corrective actions and implementing necessary BMPs for those noted problem areas.

WASTEWATER CHARACTERIZATION

Based on the last five (5) years' data reported on the Discharge Monitoring Report, the wastewater discharge is characterized for the following regulated parameters:

Drydock Flood Water:

Outfall 001:

Parameter	Average Concentration	Concentration Range
Oil and Grease	1.31 mg/L	0.6-5.6 mg/L
Turbidity	1.24 NTU	0.1-4.7 NTU
Copper (TR)	15 µg/L	3-125 µg/L
Lead (TR)	41 µg/L	20-100 µg/L
Zinc (TR)	19.4 µg/L	6-72 µg/L

Outfall 002:

Parameter	Average Concentration	Concentration Range
Oil and Grease	1.3 mg/L	0.6-5.90 mg/L
Turbidity	1.20 NTU	0.16-2.12 NTU
Copper (TR)	58 µg/L	4-481 µg/L
Lead (TR)	39 µg/L	20-40 µg/L
Zinc (TR)	33 µg/L	8-117 µg/L

Outfall 003:

Parameter	Average Concentration	Concentration Range
Oil and Grease	1.57 mg/L	0.60-10 mg/L
Turbidity	1.88 NTU	0.1-21 NTU
Copper (TR)	45 µg/L	4-920 µg/L
Lead (TR)	41.5 µg/L	1-100 µg/L
Zinc (TR)	71 µg/L	8-1370 µg/L

Stormwater:

Outfall 004:

Parameter	Average Concentration	Concentration Range
Oil and Grease	2.7 mg/L	0.5-8.6 mg/L
Turbidity	5 NTU	0.2-68 NTU
Copper (TR)	286 µg/L	0.05-1570 µg/L
Lead (TR)	23.5 µg/L	0.02-70 µg/L
Zinc (TR)	710 µg/L	0.1-3020 µg/L
TSS	16 mg/L	1-51 mg/L

Outfall 005:

Parameter	Average Concentration	Concentration Range
Oil and Grease	3.3 mg/L	0.6-19 mg/L
Turbidity	5 NTU	0.25-58 NTU
Copper (TR)	626 µg/L	0.02-3380µg/L
Lead (TR)	29 µg/L	0.04-120 µg/L
Zinc (TR)	1048 µg/L	0.07-5930 µg/L
TSS	26 mg/L	3-100 mg/L

PROPOSED PERMIT LIMITATIONS AND CONDITIONS

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific wastewater. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC) or Sediment Quality Standards (Chapter 173-204 WAC). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

To date, the United States Environmental Protection Agency (USEPA) has not promulgated effluent guidelines for the shipyard industry. However, the Draft Development Document for Proposed Effluent Limitations Guidelines for Shipbuilding and Repair (EPA 440/1-79/76b) identifies the following pollutant parameters as those which are discharged or have the potential to be discharged to a receiving water:

Conventional pollutants:	suspended and settleable solids, oil and grease, pH
Priority pollutant metals:	chromium, copper, lead and zinc
Other metals:	tin

The first NPDES permit was issued to the facility in 1982 for regulating hydroblast water or related process wastewater. The draft development document for effluent limits guidelines above does not contain effluent limits for stormwater. The Department has expanded the scope of its stormwater program beyond the federal government's goals and began to regulate industrial stormwater discharges in 1995. The previous permit issued to Todd in October 1996 began to address stormwater by requiring monitoring. No limitation for stormwater was imposed in that permit. The monitoring data were necessary to assess the stormwater discharge quality at Todd. The compliance window imposed in that initial permit, which addressed stormwater discharge, was less than a period of three (3) years as allowed in 40 CFR 122.42(d).

The following technology-based effluent limitations are established for Todd:

Pressure Wash Wastewater -- This permit prohibits the discharge of pressure wash wastewater to Elliott Bay. This determination is based on the 1992 King County Industrial Waste Division report that identifies a range of technologies that meet AKART for shipyard and boatyard pressure wash wastewater. Todd has containment on the drydocks to collect this waste stream for pretreatment and discharge to King County Sanitary Sewer System.

Oil and Grease -- During the interim period between the issuance date of this permit and lasting through March 31, 2004, the effluent limitation for oil and grease is set at 10 mg/L monthly average and 15 mg/L daily maximum. Beginning on April 1, 2004, and lasting through the expiration date, the final effluent limit is set at 5 mg/L daily maximum. This limitation has been proven to be consistently achievable by other shipyard industries by the proven performance of BMPs for the prevention of contamination of drydock flood water and on the use of gravity oil/water separators. The use of BMPs and oil/water separators satisfies the federal and state requirements for best conventional pollutant control technology (BCT) and all known available and reasonable methods of treatment (AKART) for this type of discharge.

Total Suspended Solids -- The effluent limitation for total suspended solids (TSS) in the stormwater discharge is set at 45 mg/L daily maximum during the life of this permit. This limitation has been proven to be consistently achievable by other shipyard industries.

Copper and Zinc -- An interim effluent limit for copper and zinc was calculated based on the 95th percentile of the last two years monitoring data for Outfalls 004 and 005 (see Appendix C). For Outfall 004, the copper and zinc limits are set at 1995 µg/L and 756 µg/L, respectively. For Outfall 005, the copper and zinc limits are set at 1753 µg/L, 1316 µg/L, respectively. These performance-based limits are based on the monitoring data collected after housekeeping and BMP's were implemented at each job site. The interim period will be effective beginning on the issuance date of this permit and lasting through no later than March 31, 2004.

The final limits for copper and zinc will be established contingent upon the completion of S4, S5, and S6 requirements in the permit. The Department intends to develop final effluent limits for copper and zinc after the condition set forth in Special Condition S4 (Compliance Schedule for implementation of AKART) is completed. If after completion of S4 and the Permittee is unable to meet the limits based on Water Quality Marine Acute Criteria for copper (4.8 µg/L) and zinc (90 µg/L) on a consistent basis, the Permittee will be required to conduct the study as outlined in Special Conditions S5 and S6. The Department intends to use the studies to establish final effluent limits for copper and zinc. If after completion of those requirements set forth in Special Condition S4, the effluent sampling data indicates compliance with the Water Quality Marine Acute Criteria for copper and zinc, those limits upon permit modification will become the final effluent limits for copper and zinc in this permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

Numerical Criteria for the Protection of Aquatic Life

"Numerical" water quality criteria are numerical values set forth in the state of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA, 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

Narrative Criteria

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

Antidegradation

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a degradation of existing water quality or beneficial uses.

Critical Conditions

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

Mixing Zones

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention and control (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

Description of the Receiving Water

Harbor Island is located approximately one mile southwest of downtown Seattle and lies at the mouth of the Duwamish River on the southern edge of Elliott Bay. The island is man-made and has been used for industrial purposes since about 1912. Harbor Island is bordered by the East Waterway and West Waterway of the Duwamish River and by Elliott Bay on the north.

Todd discharges drydock flood water and stormwater to Elliott Bay, which is designated as a Class A receiving water, and stormwater to the West Waterway, which is designated as a Class B receiving water. Effluent limitations will be based on the Marine Class A standards due to the location of the facility at the northwest corner of Harbor Island. Characteristic uses include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

Elliott Bay is included on the 1998 EPA 303(d) list for exceeding the fecal coliform water quality standard. The 303(d) list also reports that sediments exceed the sediment quality standards for arsenic, cadmium, chromium, copper, lead, mercury, silver, zinc, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), phenol, dibenzo furan and sediment bioassay.

The 1994 Section 305(B) report described the Duwamish River as water quality impaired for secondary contact recreation and wildlife habitat, due to ammonia, pH, dissolved oxygen/organic enrichment, thermal modifications, and fecal coliform/other pathogen indicators. These pollutants are attributed to combined sewer overflow events, urban runoff and storm sewers, other sources (unspecified) and natural sources.

The Duwamish River is also included on the 1998 EPA 303(d) list for exceeding dissolved oxygen and fecal coliform Water Quality Standards. The 303(d) list also reports that sediments exceed the sediment quality standards for copper, lead, zinc, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and sediment bioassay.

Although none of the reports specifically list ship repair activities as a source of waterbody impairment, shipyards are a potential source of metals contamination. Copper, lead, and zinc are common constituents of paints, primers, sandblast agents, and washwater. Solvents and petroleum-based products are also commonly used at shipyards and improper handling of these materials could result in spills to waters of the state.

Surface Water Quality Criteria

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA, 1992). Criteria for this discharge are summarized below:

Turbidity -- The turbidity limit is established to protect beneficial uses of Elliott Bay. Consistent with WAC 173-201A-030(vi), turbidity shall not exceed 5 Nephelometric Turbidity Units (NTU) above the background turbidity measurement when background is less than 50 NTU, or have more than a 10% increase in turbidity when the background is greater than 50 NTU.

Lead – Monitoring data indicated that Todd does not have a problem meeting the Water Quality Criterion for lead. Therefore, no performance-based limit is set for lead in this permit. The effluent limit for lead is set based on the Water Quality Marine Acute Criteria of 210 µg/L (dissolved) or 221 µg/L (total recoverable) during the entire term of this permit.

Toxic Pollutants -- Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals whenever there is a reasonable potential for those chemicals to exceed water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits are not exempt from meeting the Water Quality Standards or from having water quality-based effluent limits.

Copper and Zinc -- The Department intends to develop final effluent limits for copper and zinc as explained on page nine of the fact sheet.

The methods employed to derive water quality-based limits will be consistent with those outlined in the Department of Ecology's Permit Writer's Manual (July 1994) and EPA's Technical Support Document for Water Quality-Based Toxics Control (March 1991).

Water quality criteria for metals in Chapter 173-201A WAC are based on the dissolved fraction of the metal. The Permittee may provide data clearly demonstrating the seasonal partitioning of the dissolved metal in the ambient water in relation to an effluent discharge. Metals criteria may be adjusted on a site-specific basis when data is available clearly demonstrating the seasonal partitioning in the ambient water in relation to an effluent discharge.

Metals criteria may also be adjusted using the water effects ratio approach established by USEPA, as generally guided by the procedures in USEPA Water Quality Standards Handbook, December 1983, as supplemented or replaced.

Whole Effluent Toxicity

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

In accordance with WAC 173-205, the stormwater and drydock flood water discharge have been determined not to exhibit toxicity based on previous toxicity testing analysis. The Permittee is therefore exempt from further toxicity testing as per WAC 173-205-040. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

If the Permittee makes process or material changes which in the Department's opinion results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the next permit renewal. The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional toxicity testing at the time the process or material changes are made.

Human Health

The Department has determined that the Permittee's discharges do not contain chemicals of concern to human health based on existing data. The discharges will be re-evaluated for impacts to human health at the next permit reissuance.

Sediment Quality

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). Todd Pacific Shipyards Corporation completed a sediment monitoring study in May 1994.

Contaminated sediments at Todd Pacific Shipyards Corporation will be remediated as part of the Todd Shipyards Sediment Operable Unit within the Harbor Island Superfund Site remediation. The site was listed on the National Priorities List in 1983 due to the release of lead from a secondary lead smelter, as well as the release of other hazardous substances from other industrial operations on the island. A Remedial Investigation and Feasibility Study (RI/FS) of Harbor Island sediments was initiated by the United States Environmental Protection Agency (EPA) in 1991. A cleanup of contaminated sediment at Todd Shipyards is addressed in a Record of Decision (ROD) that was issued by EPA in May 1996.

The Permittee is actively working with EPA and other regulatory agencies to develop a specific sediment remediation plan for the shipyard. The remediation is expected to begin during this NPDES permit cycle. Dredging of contaminated sediments and shipyard waste and debris, together with capping, are expected components of the remediation plan. Prior to the remedial action, Todd Pacific Shipyards Corporation must demonstrate that Best Management Practices and adequate contaminant source control measures are in place to prevent future sediment contamination at the shipyard.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department are required to be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

MONITORING AND REPORTING

Effluent monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring and testing schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

COMPLIANCE SCHEDULE

Special condition S5 establishes a compliance schedule that will facilitate compliance with the Water Quality Standards in Elliott Bay.

S5.A requires the Permittee to conduct a final engineering report of the chosen treatment system as referenced in the submitted AKART study for stormwater.

S5.B requires the Permittee to complete construction of the stormwater control measures by December 31, 2003.

EFFLUENT MIXING STUDY

Condition S6 of this permit requires the Permittee to more accurately determine the mixing characteristics of the stormwater discharge, if the stormwater discharges exceed water quality criteria after implementation of AKART. Mixing will be measured or modeled under conditions specified in the permit to assess whether assumptions made about dilution will protect the receiving water quality outside the allotted dilution zone boundary.

RECEIVING WATER AND EFFLUENT STUDY

Condition S7 of this permit requires the Permittee to collect receiving water information necessary to determine if the effluent has a reasonable potential to cause a violation of the Water Quality Standards. If reasonable potential exists, the Department will use this information to calculate effluent limits.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop Best Management Practices plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department with the renewal application.

BEST MANAGEMENT PRACTICES (BMPs)

BMPs to collect, contain wastes, and minimize waste generation during vessel repair and maintenance work have been researched, compiled, and distributed in Washington by the Department, the Lake Union Association, and the Puget Sound Shipbuilders Association. These BMPs are similar to the BMPs published by the state of Virginia for its shipyard industry, and have been requested and used by other states and organizations, such as the U.S. Navy's National Shipbuilding Research Program, in the development of their own guidelines. This permit defines minimum functional BMPs and requires Todd Pacific Shipyards Corporation to implement them.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for five (5) years.

REVIEW BY THE PERMITTEE

A proposed permit and fact sheet was reviewed by the Permittee for verification of facts. Only factual items were corrected in the draft permit and fact sheet.

REFERENCES FOR TEXT AND APPENDICES

Bengston, et al.

1989. Draft Best Management Practices Manual for the Shipbuilding and Repair Industry, Commonwealth of Virginia, Virginia Water Pollution Control Board.

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

1979. Draft Development Document for Shipbuilding and Repair, EPA 440/1-79/076b.

Municipality of Metropolitan Seattle (METRO)

1992 Maritime Industrial Waste Project - Reduction of Toxicant Pollution from the Maritime Industry in Puget Sound.

NPDES Permit Application

April 18, 2001. Application for Permit Renewal Submitted by Todd Pacific Shipyard Corporation, Seattle.

Puget Sound Shipbuilders Association

1990. Best Management Practices for the Shipbuilding and Repair Industry, Seattle.

Washington Department of Ecology

1992. Storm Water Manual for the Puget Sound Basin., Water Quality Program, Lacey.

1994. NPDES Permit Writer's Manual, Water Quality Program, Lacey.

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on September 4 and September 11, 2001, in the *Seattle Times* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) on June 8, 2002, in the *Seattle Times* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7201, or by writing to the address listed above.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Daily Maximum Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone--expressed as the inverse of the percent effluent fraction.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

Monthly Average--The average of the measured values obtained over a calendar month's time.

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--INTERIM EFFLUENT LIMITS CALCULATION

APPENDIX D--SITE MAPS

APPENDIX E--RESPONSE TO COMMENTS